Abstract

A process is described for preparing polyisobutene having a 5 content of terminal vinylidene groups of at least 75 mol% by polymerizing isobutene or isobutenic hydrocarbon mixtures in the liquid phase in the presence of a boron trifluoride complex catalyst of the composition

 $(BF_3)_a \cdot L^1_b \cdot L^2_c \cdot L^3_d$ 

where L¹ is water, a primary C₁-C5-alkanol and/or a secondary C3-C5-alkanol, L² is at least one aldehyde and/or one ketone, L³ is an ether having at least 5 carbon atoms, a secondary alkanol having at least 6 carbon atoms, a primary alkanol having at least 6 carbon atoms and/or a tertiary alkanol, the b:a ratio is in the range from 0.9 to 3.0, the c:a ratio is in the range from 0.01 to 0.5, and the d:a ratio is in the range from 0 to 1.0.